1 INTRODUCTION

1.1 PURPOSE OF THE STUDY

In March, 1993 the *Draft Environmental Impact Statement/Report – Route 101 Six-Lane Project Between Milpas Street in the City of Santa Barbara and 1.1 Miles North of the Ventura County line in the City of Carpinteria* (draft EIR) was released for public comment by Caltrans. The release of this document resulted in significant expressions of public concern regarding the project's impacts on the community and its quality of life, and generated public enthusiasm for the consideration of alternative modal solutions within the Highway 101 Corridor.

Responding to the public's interest in studying alternative solutions within the Highway 101 Corridor in the urbanized South Coast, the Santa Barbara County Association of Governments (SBCAG) initiated the present study, Alternatives Analysis, Highway 101 Widening Project, in December, 1993.

The purpose of the Alternatives Analysis, Highway 101 Widening Project is to identify and analyze all feasible choices in transportation modes and operational management strategies within the Highway 101 Corridor in the urbanized South Coast that will avoid the need to widen the freeway until at least the year 2015. For the purpose of this study, the Highway 101 Corridor extends from just west of the Ventura County line in Carpinteria to Milpas Street in Santa Barbara. The study also demonstrates the degree to which travel can be shifted from auto use on Route 101 to alternative modes of transportation, thus forestalling the need for additional vehicle capacity in the Corridor through the year 2015.

1.2 STUDY SCOPE AND PROCESS

Within the scope of this study, conceptual alternative scenarios to the proposed physical widening of Highway 101 have been defined and evaluated. This report presents findings and recommendations which lay out future policy options, and provide direction for staged implementation of measures to accommodate future travel demand in the Highway 101 Corridor. This study does not, nor was it intended to, provide a detailed blueprint for project implementation. That will require subsequent, more detailed studies that will define the specifics of each project's and/or policy's implementation.

The scope of work for the completion of the study consisted of twelve tasks designed to:

assess the magnitude of the problem and identify key issues and concerns;
formulate and evaluate alternative solutions;
●. identify financial and policy barriers to implementing alternative

solutions;
- prepare, refine and present a final report.

From the outset, public participation in shaping, guiding and monitoring the study was a key element of the work program. The need for meaningful public participation was recognized by the SBCAG Board, which appointed a Community Advisory Committee (CAC) comprised of elected officials and citizens of the South Coast. This CAC worked with the Technical Advisory Committee (TAC) composed of staff representatives of public agencies in the South Coast, as well as Caltrans District 5 from San Luis Obispo.

To ensure that all participants in the study process acquired and maintained a common understanding of the problem to be addressed and the objective of the study, a Problem Statement and Study Objective were adopted by the Technical Advisory Committee and the Community Advisory Committee at the beginning of the project. These served as starting points in the process and as stimuli for the generation of solutions.

1.2.1 Statement of Study Objective

The objective of this study is to identify methods, costs, and feasibility of accommodating future travel through the use of alternative transportation modes and related policies such that the need to widen Route 101 between Milpas Street in downtown Santa Barbara and the Ventura County line could be avoided before the year 2015.

In recognition of our current reliance on single occupant vehicle travel, it is important that the study be prepared in a manner that creates an alternative transportation environment which entices the user and compels its use.

1.2.2 Problem Statement

In specific reference to that portion of Highway 101 between Milpas Street and the Ventura County line, what short term and long term programs and projects can be identified, funded and implemented to accommodate future travel through the use of alternative modes and;

1) *avoid the need to widen Highway 101 before the year 2015,*
2) *create an attractive alternative transportation environment which entices the user and compels its use while maintaining mobility standards, and*
3) *respect the community's desire to maintain and enhance a high quality of life and viable economy for current and future generations.*

1.2.3 Study Process

The following work program for the conduct of the Alternatives Analysis, Highway 101 Widening study was designed to fulfill the purpose of the study, as originally stated by SBCAG. The Problem

Statement and the Statement of Study Objective served to further define and focus both the process and products of that process. Working papers and technical memorandums were produced at key junctures throughout the study and are incorporated by reference in this report. Figure 1-1 depicts the study process and its various tasks, and also shows the points of TAC/CAC input to the process.

Task 1 – Review Forecasts to Assess Magnitude of Necessary Reductions in Vehicular Travel Demand and Perform Situation Assessment and Issue Identification

This task focused on defining the magnitude of the problem by evaluating the volume and character of existing and forecast travel demand in the Highway 101 Corridor. Information such as the *1990 Census Analysis Journey to Work Information,* demographics, *Traffic Solutions'* employer surveys and the SBCAG travel demand model were used to evaluate development patterns and trends, resulting travel behavior and modal characteristics, and existing and forecast travel demand. Based on review of the SBCAG travel demand model, and comparison to available empirical data, the consultant team concluded that the travel model and the forecasts it produced were reasonable for use in this study.

An intercept travel survey was conducted along Highway 101 in the project area to gather information on the origins, destination and trip purposes of travelers along Highway 101 for both weekdays and weekend peak periods as well as weekday midday travel. Vehicles traveling southbound along Highway 101 during the survey period were video taped from the San Ysidro Road overcrossing. Video taping was performed on Sunday, April 17, and Tuesday, May 17,1994. Address information was obtained from the California Department of Motor Vehicles based on the license plate information obtained from the video tape. Travel survey questionnaires were mailed to the registered owners of the observed vehicles, with the request to complete and return the self-addressed, postage-paid survey postcards. A survey response rate of 21 to 28 percent was obtained. The data obtained from the survey was used to better define the nature and character of the travel markets comprising the trips in the Corridor, confirming several observed patterns and trends. The information was also used to validate the basis of the forecasts of external travel, particularly the interchange between Santa Barbara County (specifically, the South Coast) and Ventura County. A summary of the findings of the travel survey are included in the discussion of existing travel characteristics in the Highway 101 Corridor, in Section 2 of this report. A detailed description of the survey and its results was provided in *Task 1 – Technical Memorandum # 3: Intercept Travel Survey Results* (Appendix A).

The final element of Task 1 was a situation assessment and issue identification as a prerequisite to consensus building. In order to more clearly understand the values, issues, interests and positions of all major "stakeholders", interviews were conducted with individuals and representatives of community organizations who would likely be affected by the Highway 101 project, or who had provided

written comments to SBCAG regarding the project. An extensive list of approximately 500 individuals was compiled as potential participants in the public involvement process. To become familiar with the background and key issues related to the Highway 101 Corridor through the South Coast, all major news articles published by the local news media dating back to the release of the draft EIR for the Highway 101 widening, and throughout the course of this project, were compiled and reviewed. Finally, a situational assessment was prepared for use by the study team which:

identified key issues and concerns of the community and responsible agencies;

outlined measures and actions previously identified to address some of the issues and concerns;

defined key stakeholders;

described values and interests held in common by the individuals and groups that had expressed interest in the Highway 101 widening project, and;

identified issues of conflict among the individuals and groups interested in the fate of Highway 101.

The situational assessment was the foundation of the public involvement process which began with the first Technical and Community Advisory Committees' meeting before the public scoping workshop which followed.

Task 2 – Prepare Scoping List of Alternatives for Evaluation

The list of potential alternatives was formulated by the consultant team with the review of the TAC and CAC (Appendix B). The purpose of the scoping list was to begin to identify any and all measures which might appropriately be applied in the Highway 101 Corridor. The list was used at the public scoping meeting to illustrate to workshop participants the types of measures under consideration in the study and to elicit input from the public. Such input included responses to the measures included on the list, or additional measures or refinements to be incorporated into the list. The list of potential alternative modes and transportation operational and policy alternatives included:

Alternative Modes

Transit
- Local/Express Bus Service
- Park-and-Ride Lots
- Commuter/Intercity Rail
- Light Rail Transit

Bicycle Lanes/Facilities

Demand Management Strategies

Carpool/HOV Facilities

Parking Management/Pricing
•. Marketing Strategies
•. Telecommuting
•. Flexible Work Schedules

Operational Management Strategies

Freeway Traffic Management Strategies
Intelligent Vehicle/Highway Systems (IVHS)
•. Ramp Metering
•. Signal Synchronization

Land Use/Transportation Policy Strategies

Development of integrated alternative and multimodal centers
Encouraging commercial uses closer to residential areas
•. Use of automobile free enterprise zones
•. Increasing densities to support transit use

The public scoping workshop, conducted on February 17, 1994 at the conclusion of this task, focused on soliciting and clarifying public and agency input on the full range of specific alternatives to the widening of Highway 101. Following an initial introduction and overview of the scoping process, the participants of the workshop were divided into groups of 8 to 10 and provided with a facilitator. The two tasks put to the groups were to 1) identify any issues, concerns, ideas, etc. held by members of the group regarding Highway 101, and 2) brainstorm possible solutions to address those issues and concerns. To assist the groups in understanding the range and capability of the alternative technologies available, the consultant team provided a team of “modal specialists”, who circulated among the groups, providing information on their area of expertise. The issues addressed included:

Transit (bus, light rail)
Commuter Rail
Transportation Demand Management
Freeway operations and Transportation Systems Management
•. Bicycles
•. Land Use Planning and Policies

At the conclusion of the brainstorming session, each group presented the alternative concepts and measures formulated by their group. All of the measures identified in the scoping meeting were carried forward to the next step in the process, and are presented in Chapter 3 of this report.

Task 3 – Develop Packages of Measures

In Task 3, the measures identified in the scoping meeting were reviewed and screened to eliminate any which were "fatally flawed" or for which there was no reasonable expectation for implementation. Very few of the measures identified were eliminated. For the remaining measures, an initial assessment was prepared of their capability, individually and cumulatively, to reduce forecast traffic demand on Highway 101.

The primary tools in assessing both forecast travel demand and trip purposes on Highway 101 were the SBCAG travel model, and the results of the intercept travel survey. From these two sources, the magnitude of the existing and forecasted travel markets, that contribute to congestion along Highway 101 were quantified. This information has been incorporated into the description of travel characteristics in the Highway 101 Corridor in Chapter 2 of this report. The effectiveness of the alternative measures in reducing auto travel in urban settings similar to the Highway 101 Corridor was described. Additionally, the degree to which the various modes and policies/operating strategies are complementary or competitive with each other was evaluated. These analyses were documented in detail in the *Task 3 – Technical Memorandum – Effectiveness of Alternative Measures* (Appendix C) and are described in Chapter 3 of this report.

Task 4 – Review and Refine List of Measures for Further Analysis

The purpose of this task was to combine the individual alternatives and strategies identified in the scoping meeting and evaluated in Task 3 into packages of complementary measures. With the participation of the TAC and the CAC, the consultant team began to define the specific applications for the various alternatives and strategies, and to group them into three packages: a rail transit package, an enhanced bus transit package, and a pricing/transportation demand management (TDM) strategies package. The packages provided substantially different approaches to accommodating travel demand, with little or no overlap or duplication. In this way, it would be possible to assess the degree of effectiveness of the different solutions individually, recognizing that the ultimate solution most likely lies in some combination of aspects of each of the three packages.

Some measures were identified for inclusion in all of the packages. These measures were generally categorized as nonmotorized support strategies and transportation systems management (TSM) strategies. They tended to be less capital intensive and would support any of the alternatives packages by providing better management of available roadway capacity or by encouraging nonmotorized travel alternatives.

For each of alternatives packages, concept plans were developed, identifying the location of facilities (e.g. rail alignments, station locations, express bus routes, etc.), the levels of service to be provided, the ancillary and support services (e.g. feeder bus

service, station amenities, parking, etc.), and policy and programs (e.g. parking pricing, transit subsidies, land use policies) which would be needed. The concept plans for each of the alternative packages were presented in the working paper *Alternatives Analysis, Highway 101 Widening, Definition of Alternatives* and are summarized in Chapter 3 of this report.

Task 5 – Finalize Measures and Propose Analysis Methods

In Task 5, the criteria which would be used to evaluate the alternative scenarios for the Highway 101 Corridor, including the highway widening (Build) and "do-nothing" (No Build) scenarios were defined. Evaluation criteria were developed to address four general categories:

Measures of the Problem
Measures of the Solution
- Measures of Effectiveness
- Measures of Community/Environmental Impact

The specific criteria included in each of these categories were described and discussed in a working paper entitled *Evaluation Criteria For The Assessment Of Highway 101 Alternatives* (Appendix D). This working paper was presented to the TAC and CAC for review and comment. TAC and CAC comments were incorporated into the final version of the evaluation criteria described in Chapter 4 and Appendix D of this report.

As part of Task 5, the analysis methods used in developing the information necessary to evaluate each of the alternatives packages were also identified. The primary tool used to assess the effectiveness of the various packages to accommodate existing and forecast travel demand in the Highway 101 Corridor was the SBCAG travel forecasting model. One limitation of the SBCAG model, which is common to many like sized areawide models, is the absence of a transit network and explicit treatment of transit within the mode choice model to estimate potential mode shifts and trip reductions which are likely to occur with implementation of major transit facilities or mandated areawide TDM programs. Therefore, the Comsis Corporation/Federal Highway Administration (FHWA) TDM model was used to supplement the SBCAG model to forecast the travel impacts of the alternative strategies. In particular, the TDM model was used to estimate potential reduction in person trips attributable to TDM measures such as telecommuting, and reductions in vehicle trips which would occur due to mode shifts with the provision of rail or express bus transit or pricing disincentives to single-occupant auto use.

A methodology was also developed for estimating potential increases in bicycle trips which would occur with improved bicycle facilities and amenities.

Task 6 – Prepare Specification for Model Inputs, Conduct Analysis and Estimate Trip Reduction Potential

The SBCAG travel forecasting model was the starting point for estimating the potential trip reduction capability of each alternative. It estimates average daily trips from each traffic analysis zone in the model area to every other zone (i.e. trip tables or trip matrices) for the forecast year, in this case 2015. The Comsis/FHWA TDM model was applied to the SBCAG trip tables to estimate the potential mode shift which would occur with the implementation of rail or express bus transit, or with the implementation of additional TDM measures including various forms of parking pricing. The revised estimates of trips between zones for each alternative package were then returned to the SBCAG model for assignment to the highway network and reporting of forecast traffic volumes in the Corridor for each alternative. Information provided by the model was then used to estimate levels of service, vehicle miles of travel, energy consumption and air pollutant emissions for each alternative.

The appropriate capacity values assumed in analyzing the performance of Highway 101 under each of the alternatives were also determined in this task. Capacity assumptions used in previous analyses of the Highway 101 Corridor, in particular the *South Coast Route 101 Corridor Study* (SBCAG, 1990) and the Caltrans draft EIR for the widening project, were reviewed. Information was also obtained on the assumptions regarding freeway capacity contained in the 1994 version of the *Highway Capacity Manual* (Institute of Traffic Engineers, 1994), which has not yet been officially released.

Limited speed studies were conducted along Highway 101 in the Corridor area and along parallel arterials during peak weekend and peak weekday travel periods to confirm current operating conditions within the Corridor, and to develop data on current peak period operating speeds. This information was also used to assess capacity assumptions for Highway 101. The results of the speed studies are discussed in Chapter 2.

Task 7 – Estimate Facility Needs and Costs of Packages and Assess Financial Feasibility

Based on the detailed definition of alternatives, measures and strategies to be included in each package, estimates of facility needs and associated capital costs, and operating and maintenance (O&M) costs were prepared for each package. The cost estimates were based upon recent data on the capital and O&M costs for similar projects located in California and across the nation. The costs of each of the packages were compared to existing and potential funding sources available to the region, and a financial feasibility assessment and funding strategy was prepared for each alternatives package. In addition, the estimated capital and operating and maintenance costs of each alternative scenarios, including the highway widening project, were incorporated into the evaluation criteria as measures of effectiveness of the various alternatives (see Chapters 3 and 4 of this report).

Task 8 – Compare and Contrast Alternatives

The three alternatives packages were evaluated, along with the "do-nothing" and highway widening options, using a set of common evaluation criteria. The criteria, developed in Task 5, allow a comparison of the various alternative scenarios to evaluate which option(s) should be recommended for implementation in the Corridor. The results of the evaluation of each of the alternatives, and the comparison of the various alternatives are presented in Chapter 4 of this report. No weighting system was applied to the measures used to evaluate the alternatives. In order to establish an objective comparative analysis of all alternatives at this stage, it is more appropriate to let each decision-maker and citizen of the community provide their own implicit weights to each of the factors to individually assess what is the best solution based upon each individual's own unique values. Therefore, the full array of information on how each alternative performs against each of the measures is presented and no single overall "score" is developed.

The final tasks in the study process (Tasks 9 through 12) involve the preparation, refinement and presentation of this final report. This report is intended to provide documentation on the study process and present the findings and recommendations. Prior to being finalized and presented in a public hearing, this final report will have been submitted to SBCAG staff, the TAC and the CAC for review and comment.

1.3 PUBLIC INVOLVEMENT PROCESS

The importance of public involvement throughout the study process was recognized from the very inception of this study. The public involvement component of the study was designed to satisfy several objectives:

provide a mutual understanding between the study team and the public as to the nature of the problem and the objective of the study at the outset of the project,

obtain meaningful input from as broad a segment of the public as

possible regarding the issues, concerns and possible solutions addressed in the course of the study,

maintain public involvement in the study process throughout the course of the project, with opportunities to review study products and provide input at key junctures,

begin to develop a consensus as to the range and nature of solutions within the Highway 101 Corridor which would effectively address the problem and be acceptable to the community.

The public involvement component of this study consists of five elements:

Technical Advisory Committee Meetings
●. Community Advisory Committee Meetings
Public Scoping Workshop
●. Community Dialogues
●. Public Hearing

Technical and Community Advisory Committee Meetings

It was decided early in the study that the greatest benefit was derived from joint meetings of the CAC and the TAC. With few exceptions, the two bodies met jointly throughout the course of the study.

The TAC is comprised of representatives from five agencies with responsibilities for transportation in the Highway 101 Corridor. They include:

County of Santa Barbara Public Works Department
City of Santa Barbara Public Works Department
●. City of Carpinteria Public Works Department
●. Santa Barbara Metropolitan Transit District
●. Caltrans District 5 Transportation Planning Division

The TAC was involved in the formulation of the original scope of work for this project and has been involved throughout the course of the project in providing input on the selection of the alternatives and the review of technical products at various points throughout the study.

The CAC has 10 members including three elected officials and representatives of residents and community groups affected by and/or interested in the fate of Highway 101. The CAC is instrumental in representing the views of the community within the Highway 101 Corridor. Like the TAC, the CAC has been involved in the study since its inception, assisting in the formulation of the initial scope of work, and participating in the consultant selection process. The CAC has also participated throughout the project in defining the alternatives to be considered and providing comments on the various technical products. Another important role of the CAC has been to keep the community apprised of the progress of this study, forming the important link between the community and the study team.

Public Scoping Workshop

As described above in the Task 2 discussion, the public scoping workshop provided an opportunity for the study team and the public to develop a common understanding of the nature of the problem to be studied and the objectives of the study. Based on that understanding, the public was asked to participate in a small group setting and to identify key issues and concerns related to the Highway 101 Corridor, and solutions to address those issues and concerns. Announcements of the workshop were mailed to the extensive list of interested parties, and workshops were advertised in the local news media. Highlights of the workshop were televised on the local news channel. Following introductions and an overview of the study process, the group of approximately 55 participants was divided into smaller working groups of 8 to 10 people. The study team provided technical assistance to the groups in the form of "modal experts", individuals with specialized expertise on a particular transportation mode or policy/strategy potentially applicable to the Highway 101 Corridor. The outcome of the workshop was a list of issues and concerns identified by each of the groups, and a list of possible measures and strategies to reduce the need to widen Highway 101 before 2015 or beyond.

Community Dialogues

The community dialogues provide an opportunity for the study team to meet with the general public to describe the study process and the resulting conclusions and recommendations. The dialogues will be conducted at locations at each end of the Corridor, for example one in the City of Carpinteria and the other in Montecito or downtown Santa Barbara. As with the public scoping workshop, the community dialogues will be widely publicized with the aim of attracting many people, representing as broad a segment of the Corridor's population as possible.

Public Hearing

A public hearing to be held by the SBCAG Policy Board will provide the final opportunity for public input on the study. In a format considerably more structured than that of the community dialogues, SBCAG staff and the study team will again present the study process, and its conclusions and recommendations. Additional public comments will be invited at this hearing.

(Note: These last sections to be rewritten after community dialogues and the public hearing have been conducted.)